

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001861**Date Inspected:** 30-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Xie**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Deck panels**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present During the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG bay 1 (Gantry 1)

QA observed ZPMC qualified welding personnel perform the Gas Metal Arc Weld (GMAW) and Submerged Arc Weld (SAW) 3 Rib PMT# 1 for deck panels DP-056-001 and DP-162-001 on gantry #1. ZPMC welding personnel commenced welding PMT #1 for gantry 1 at 0820 hrs for the above mentioned deck panels. QA and QC visually inspected and accepted 500mm segments of each weld on this PMT panel. ZPMC's QC Ultrasonic Testing (UT) technician ultrasonically inspected and accepted the same 500mm segments of each weld. QA completed a U-Ribs PMT inspection report for this date and gantry. The report is on file in the Caltrans QA office. The welding parameters and welder ID's for Gantry 1 PMT #1 are as follows:

GMAW

Volts: 29.9 – 30.4 Amps: 348 – 362 Travel speed: 530mmppm

SAW

Volts: 24.8 – 25.5 Amps: 679 – 687 Travel speed: 515mmppm

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Welder ID#'s

Weld joint 1: 059371

Weld joint 2: 059378

Weld joint 3: 059361

Weld joint 4: 059468

Weld joint 5: 059403

Weld joint 6: 059416

After the completion of the PMT QA observed ZPMC qualified welding personnel perform the GMAW welds joining the closed U-Ribs to deck panel DP-056-001 and DP-162-001. During the process two of the welding heads experienced technical difficulties on deck panel DP-162-001 U-Rib #U-28 welds W1 and W2. Due to the malfunction of these two heads it was necessary to terminate the welding for welds W1 and W2. Weld W2 was terminated after welding 2780mm and W1 was terminated after welding 10800mm. Later in the shift ZPMC personnel ground the terminated areas of both welds mentioned above. ZPMC QC inspectors MT'ed the areas and the welding personnel restarted and completed these two welds without an approved repair procedure. (An incident report is forth coming) ZPMC QC CWI identified as Chen Xie was notified before welding resumed on these two welds that an incident report would be generated if they did not have an approved procedure to restart these welds.

QA observed 4 ZPMC QC inspectors in the vicinity of the welding operations including ZPMC CWI identified as Chen Xie. There were also 4 American Bridge/Fluor (ABF) inspectors in the area as well. QA and ABF QC inspectors performed a random visual inspection of the GMAW root welds on both panels. All completed welds appeared to meet the requirements of the contract documents. QA only observed the GMAW process for these panels. ZPMC did not complete the SAW welds before the end of this shift. QA and QC monitored the welding process continuously throughout the day. QA partially completed a production panel welding report for the above mentioned panels. The report is on file in the Caltrans QA office. The welding parameters as measured with the calibrated gages on the machines appeared to be in conformance with the posted WPS's.

DP-056-001 GMAW

Volts: 29.4 – 30.9 Amps: 361 – 378 Travel Speed: 533 - 535 mmpm

DP-162-001 GMAW

Volts: 29.3 – 31.3 Amps: 351 – 377 Travel Speed: 530 - 535 mmpm

Gantry 2

QA observed ZPMC qualified welding personnel perform the Gas Metal Arc Weld (GMAW) and Submerged Arc Weld (SAW) 2 Rib PMT# 1 for deck panel DP-271-001 on gantry #2. ZPMC welding personnel commenced welding PMT #1 for gantry 2 at 0823 hrs for the above mentioned deck panel. QA and QC visually inspected and accepted 500mm segments of each weld on this PMT panel. ZPMC's QC Ultrasonic Testing (UT) technician ultrasonically inspected and accepted the same 500mm segments of each weld. QA completed a U-Ribs PMT inspection report for this date and gantry. The report is on file in the Caltrans QA office. The welding parameters and welder ID's for Gantry 2 PMT #1 are as follows:

GMAW

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Volts: 30 – 30.3 Amps: 370 – 378 Travel speed: 530mmpm

SAW

Volts: 24.8 – 25 Amps: 680 – 686 Travel speed: 515mmpm

Welder ID#'s

Weld joint 1: 059443

Weld joint 2: 059464

Weld joint 3: 059421

Weld joint 4: 059355

After the completion of the PMT QA observed ZPMC qualified welding personnel perform the GMAW and SAW welds joining the closed U-Ribs to deck panel DP-271-001. QA observed 4 ZPMC QC inspectors in the vicinity of the welding operations including ZPMC CWI identified as Chen Xie. There were also 4 American Bridge/Fluor (ABF) inspectors in the area as well. QA and ABF QC inspectors performed a random visual inspection of the GMAW root welds on this panel. All welds appeared to meet the requirements of the contract documents. QA and QC monitored the welding process continuously throughout the day. QA completed a production panel welding report for the above mentioned panel. The report is on file in the Caltrans QA office. The welding parameters as measured with the calibrated gages on the machines appeared to be in conformance with the posted WPS's.

GMAW

Volts: 30.4 – 30.9 Amps: 359 – 381 Travel Speed: 530 mmpm

SAW

Volts: 24.6 – 26.1 Amps: 676 – 689 Travel Speed: 510 - 515 mmpm



Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowery (858)-344-2712, who represents the Office of Structural Materials

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for your project.

Inspected By:	Hall,Steven	Quality Assurance Inspector
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Reviewed By:	Cuellar,Robert	QA Reviewer
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